

## CLAIMS

What is claimed is:

Sub A2 1. In a computer system, a method for propagating a single snapshot image of a running software application into multiple instances, wherein the snapshot image includes at least one process, state information associated with the process and an identifier associated with the application, said running application restored on a similarly configured computer having an operating system and having an environment similar to the environment of the computer where the process was snapshot image was produced, comprising the steps of:

- 5
- 10
- (a) dividing the snapshot image into shareable data and non-shareable data;
  - (b) producing at least one additional instance of the snapshot image upon restoration of the snapshot image;
  - (c) providing the sharable data to said additional instance; and
  - (d) controlling access by the additional instance to non-shareable data.

15 2. The method of claim 1, wherein said non-shareable data is copied on a write operation.

3. The method of claim 1, wherein said non-shareable data is multiplexed.

4. The method of claim 1, wherein said non-shareable data is virtualized.

20 5. The method of claim 1, wherein said additional instance is altered to provide customization of the application.

25 6. The method of claim 5, wherein references to non-shareable resources are saved in original form.

7. A computer program product for propagating a single snapshot image of a running software application into multiple instances, wherein the snapshot image includes at least one process, state information associated with the process and an identifier associated with the application, said running application restored on a similarly configured computer having an

30

operating system and having an environment similar to the environment of the computer where the process was snapshot image was produced, comprising the steps of:

- (a) dividing the snapshot image into shareable data and non-shareable data;
- (b) producing at least one additional instance of the snapshot image upon restoration of the snapshot image; and
- (c) providing private copies of non-shareable data to said additional instance, wherein access to non-shareable resources is controlled by the operating system.

8. A system for propagating a single snapshot image of a running software application into multiple instances, wherein the snapshot image includes at least one process, state information associated with the process and an identifier associated with the application, said running application restored on a similarly configured computer having an operating system and having an environment similar to the environment of the computer where the process was snapshot image was produced, comprising

- (a) a first software module that processes transactions between the operating system and application and tracks requests for system resources or changes to process state in anticipation of a snapshot;
- (b) a storage format for organizing an application snapshot image into shareable and non-shareable data, said storage format manipulated by said software module; and
- (c) a second module that fields requests for non-shareable resources, duplicates said non-shareable resources and provides said duplicated non-shareable resources to application instances produced from said storage format.